

Notice of Allowability

Application No.

09/729,177

Applicant(s)

VANDERBAUWHEDE ET AL.

Examiner

Walter F Briney III

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 28 September 2004.
2. ☒ The allowed claim(s) is/are 1-3 and 5-17.
3. ☒ The drawings filed on 17 October 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance:

1. **Claims 1-3 and 5-17 are allowed.**

Claim 1 is limited to *a method for echo canceling in a communication line system*. Prat discloses a hybrid transceiver circuit. See Abstract. As a starting point, Prat depicts in figure 3 a hybrid transceiver for a differential transmission system. Amplifier (12) supplies two signals that are substantially out-of-phase with respect to each other to telephone line (1). The hybrid comprises impedances Z1 and Z2 as shown. The path between TX+ and node B and the path between TX- and node A represent *two branches* of a hybrid *bridge*. One of Z1 and Z2 corresponds to *at least one tunable balance element within each branch*. Prat also discloses that the values of Z1 and Z2 are chosen to reduce hybrid reflections, i.e. *reduce transmission loss gain*. However, Prat simply does not disclose the values of impedances Z1 and Z2 with respect to *line terminating resistors Ra and line impedance ZL*. Therefore, Prat anticipates all limitations of the claim with the exception of *tuning said tunable balance to be substantially equal to a scaled impedance value of a parallel circuit comprising the line termination resistance in transmission paths of the hybrid bridge and the line impedance* (emphasis added).

While previously cited reference Kakuishi teaches removing hybrid reflections in a differential hybrid with a transfer function comprising two impedances in parallel (see equation 2), it is clear that the transfer function taught by Kakuishi is based on the

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presence of resistor R1 and capacitor C1 of figure 3, which are simply not included in the transfer function depicted in figure 3 of Prat. Thus, claim 1 is allowable over Prat in view of Kakuishi.

Claims 2, 3, 5, and 16 are dependent on claim 1, and are allowable over Prat in view of Kakuishi for at least the same reasons.

Claim 6 is limited to essentially the same subject matter as claim 1, and is allowable over Prat for at least the same reasons.

Claims 7-15 and 17 are dependent on claim 6, and are allowable over Prat in view of Kakuishi for at least the same reasons.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F Briney III whose telephone number is 703-305-0347. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 703-305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SINH TRAN
SUPERVISORY PATENT EXAMINER

WFB
3/18/05